UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

SECURITIES AND EXCHANGE COMMISSION,

Plaintiff,

v.

No. 1:23-cv-1346 (JSR)

TERRAFORM LABS PTE LTD. and
DO HYEONG KWON,

Defendants.

**MEMORANDUM OF LAW IN OPPOSITION TO
DEFENDANTS' MOTION TO RECONSIDER THE COURT'S ORDER
DENYING DEFENDANTS' MOTION TO EXCLUDE THE OPINIONS AND
TESTIMONY OF DR. MATTHEW EDMAN**

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Pursuant to Local Civil Rule 6.3, Plaintiff Securities and Exchange Commission ("SEC") respectfully submits this memorandum of law in opposition to Defendants' Motion to Reconsider the Court's Order Denying Defendants' Motion to Exclude the Opinions and Testimony of the SEC's proposed expert Dr. Matthew Edman.

BACKGROUND

As the Court is aware, the SEC has proffered Dr. Matthew J. Edman as an expert to testify regarding Defendants' Chai scheme. Dr. Edman has a Ph.D. in Computer Science from Rensselaer Polytechnic Institute. Edman Expert Report, ¶ 3 (ECF No. 87-2). He has authored or co-authored multiple research papers in peer-reviewed conferences and journals related to cryptography. *Id*. Before founding his Manhattan-based cybersecurity and investigations firm, NAXO Labs, Dr. Edman served in various key roles in which he investigated cyber fraud. *Id*. ¶¶ 4, 6. Many of the investigations he conducted on behalf of clients involved the investigation and analysis of addresses and transactions related to several different crypto assets, including Bitcoin and Ethereum. *Id*. ¶ 7.

In this case, Dr. Edman examined the source code associated with the LP Server to determine: its functionality; how it related to and interacted with the Terra blockchain during the relevant period; and, historical changes made to the LP Server source code, including who made those changes. *Id*. ¶ 10. Dr. Edman also analyzed Terra blockchain activity during the relevant period to identify purported Chai transactions generated by the LP Server; the proportion of overall activity on the Terra blockchain associated with purported Chai transactions; and, whether such transactions represented the processing and settlement of "real world" Chai transactions on the Terra blockchain. *Id*.

After conducting his examination and analysis, Dr. Edman formed the opinion that the

LP Server software was developed by Terraform employees and its primary function was to

replicate purported Chai transactions onto the Terra blockchain. *Id.* ¶ 11. His analysis also

showed that the LP Server controlled the private keys associated with the purported Chai

transactions, such that these transactions were created by Terraform's LP Server rather than by

individual users of the Terra blockchain. *Id.* The transactions created on the Terra blockchain

by the LP Server, he found, constituted over 45 percent of native token transfers between users

on the Terra blockchain between June 2019 and May 2022. *Id.* Finally, Dr. Edman concluded

that these purported Chai transactions occurred within a closed system of Terra blockchain

wallet addresses, such that they represented transfers between wallet addresses controlled by

Terraform. *Id.*

On October 20, 2023, the Court set a briefing schedule for *Daubert* motions in this matter

requiring all such motions to be filed by October 27, oppositions by November 7, and replies by

November 10. The Court also scheduled a *Daubert* hearing to be held shortly thereafter on

November 17. *See* October 20, 2023 Minute Entry for Proceedings. Collectively, the parties

filed five *Daubert* motions, along with the corresponding oppositions and replies. The Court

then held a hearing on November 17, 2023, in which all experts were present and given an

opportunity to testify.[1] On December 28, 2023, the Court issued a thorough, well-reasoned

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[1] Defendants try to minimize the significance of the *Daubert* hearing conducted by the Court by characterizing it as a "one-hour hearing in which the Court evaluated pending *Daubert* motions for five proposed expert witnesses." Def. Recon Mot. at 6. However, this is inaccurate. The hearing started at 2 pm and went until 4 pm, at which point the Court took a 15-minute break to address another matter, after which the hearing resumed for an additional period. Moreover, "whether to hold a separate *Daubert* hearing in advance of admitting expert testimony is within the trial court's discretion." *United States v. Ashburn*, 88 F. Supp. 3d 239, 243 (E.D.N.Y. 2015) (citing *United States v. Williams*, 506 F.3d 151, 161 (2d Cir. 2007)).

opinion addressing Defendant's motion to exclude Dr. Edman. Now, on the eve of trial,

Defendants seek to relitigate issues that the Court has already decided based on arguments that

the Court has already considered and rejected. .

Specifically, in denying Defendant's motion to exclude Dr. Edman, the Court rejected

Defendants argument that "Dr. Edman failed to consider sufficient data because he did not

'examine each component of the Chai payment system, its data or logs, and the data that was

input into the LP Server that resulted in the blockchain transactions.'" *SEC v. Terraform Labs*

Pte. Ltd., 2023 WL 8944860, at *8 (S.D.N.Y. Dec. 28, 2023) (quoting Defendants' motion). As

the Court noted, putting aside Defendants' criticism of Dr. Edman for failing to consider

information that was not produced to the SEC in the litigation, "Dr. Edman was able to reach his

conclusions based on the LP Server source code and public blockchain data. *Defendants provide*

no satisfying account of why the information Dr. Edman relied on was insufficient to conclude

that the LP Server replicated purported Chai transactions." *Id*. (emphasis added).

Defendants now ask the Court to reverse this ruling. Their request is without merit and

should be rejected.

ARGUMENT

I.   Legal Standard On Motions for Reconsideration

"Reconsideration of a court's prior order under Local Rule 6.3 or Rule 59 'is an

extraordinary remedy to be employed sparingly in the interests of finality and conservation of

scarce judicial resources.'" *Schoolcraft v. City of New York*, 298 F.R.D. 134, 136 (S.D.N.Y.

2014) (quoting *Ferring B.V. v. Allergan, Inc.*, 2013 WL 4082930, at *1 (S.D.N.Y. Aug. 7,

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2013)). "Accordingly, the standard for granting a motion for reconsideration is 'strict,' and reconsideration will usually be denied. *Brkic v. Dumbo Moving & Storage, Inc.*, 2023 WL 1069889, at *3 (S.D.N.Y. Jan. 27, 2023) (*quoting Shrader v. CSX Transp., Inc.*, 70 F.3d 255, 257 (2d Cir.1995)).

"The provision for reargument is not designed to allow wasteful repetition of arguments already briefed, considered and decided." *Campbell v. Cantor Fitzgerald & Co.*, 205 F.3d 1321 (2d Cir. 1999), 1999 WL 1424999 (Table) at * 2 (quoting *Schonberger v. Serchuk*, 742 F. Supp. 108, 119 (S.D.N.Y.1990)); *accord Brkic*, 2023 WL 1069889, at *2 (S.D.N.Y. Jan. 27, 2023). "To merit reconsideration, a party must pinpoint 'an intervening change in controlling law, the availability of new evidence, or the need to correct a clear error or prevent manifest injustice.'" *Id*., at *3 (quoting *Virgin Atl. Airways, Ltd. v. Nat'l Mediation Bd.*, 956 F.2d 1245, 1255 (2d Cir. 1992)). It is axiomatic that "a motion to reconsider will not be granted where the moving party is merely trying to relitigate an already decided issue." *Kumaran v. Nat'l Futures Ass'n*, 2023 WL 3160116, at *1 (S.D.N.Y. Apr. 28, 2023) (quoting *Padilla v. Maersk Line, Ltd.*, 636 F. Supp. 2d 256, 258-59 (S.D.N.Y. 2009)).

II.   Defendants Arguments About Supposed "Clear Errors" in the Court's Ruling
      are Based on Misstatements Regarding the Underlying Facts and Dr. Edman's Testimony

   A. Defendants Simply Repeat the Same Arguments That
      the Court Rejected Regarding Data Not Available

Defendants' argument that the Court committed clear error in allowing Dr. Edman to testify rests on two deeply flawed premises. One, Defendants claim that Dr. Edman could not have offered his opinions without looking at certain input data that went into the LP Server. Def. Recon Mot. at 9. Two, they assert that the Court's "Opinion ignores uncontested facts that the LP Server is in the possession of Chai, not TFL." *Id*. at 8. Both of these statements are flat wrong.

Defendant's claim that the Court's "Opinion ignores clear and uncontested statements by Dr. Edman that the missing inputs are required to determine whether the LP Server executed a Chai transaction as a blockchain transaction," (Def. Recon Mot. at 9) is unfounded for several reasons. First, the Court did consider Defendants' arguments in this regard—and rejected them—because Defendants made the *exact same arguments* in the motion to exclude Dr. Edman that they filed in October. *See* Def. Mot. to Exclude at 10-14 (ECF No. 97). The Court did not ignore but instead specifically addressed Defendants' arguments in this regard. *See Terraform Labs Pte. Ltd.,* 2023 WL 8944860, at *8-9 (addressing both Defendants' argument that Dr. Edman failed to consider certain input data and that he speculated about inputs to the LP Server). "A motion for reconsideration may not be . . . used as a vehicle for relitigating issues already decided by the Court." *Davidson v. Scully*, 172 F. Supp. 2d 458, 461–62 (S.D.N.Y. 2001) (recognizing that a disappointed litigant "is not supposed to treat the court's initial decision as the opening of a dialogue . . . .") (quoting *Polsby v. St. Martin's Press, Inc.*, 2000 WL 98057, at *1 (S.D.N.Y. Jan 18, 2000)).

Defendants again rely on out-of-context quotations of Dr. Edman's deposition to suggest that he would be "speculating" in offering his opinions. *See* Def. Recon. Mot. at 9, 11. The Court has already addressed and rejected these arguments by Defendants about purported "improper speculation." *See Terraform Labs Pte. Ltd.,* 2023 WL 8944860, at 9 (addressing the same deposition testimony quoted in Defendants' reconsideration motion). As previously explained in our opposition to Defendant's *Daubert* motion when they made the same argument using the same deposition testimony, Dr. Edman testified that even though Defendants failed to produce the LP Server during discovery as the SEC requested, preventing him from knowing who exactly was providing the inputs to the LP Server, he was nonetheless able to determine

what the LP server did with those inputs (i.e., replicate transactions via a closed system) through

his examination of the materials available, including the source code associated with the LP

Server. Edman Deposition 147:20-149:11 (ECF No. 110-4) ("I was able to determine by

reviewing the LP server source code that the LP server software was creating the transactions

and not a human.").

Moreover, Defendants' arguments on reconsideration as to what Dr. Edman, a Ph. D.

computer scientist, "should have" considered, are premised entirely on arguments of counsel

about what counsel thinks Dr. Edman overlooked in his analysis. Defendants do not cite to or

address Dr. Edman's testimony at his deposition and the *Daubert* hearing as to how he was able

to offer his opinions without having been provided access to the inputs to the LP Server. *See*

Edman Depo. 205:12-207:15 (ECF No. 110-4); Daubert Hearing Tr. 70:12-72:17 (relevant

excerpts attached as Exhibit 1). At the *Daubert* hearing, Dr. Edman testified that:

> Q And how is it that you can determine what the LP server did in
> this case without the inputs that defense counsel referred to?
>
> A Well, the LP server is just source code and a fairly small
> application at that. So I could analyze that source code. I could
> look at what it expected the inputs to be, and I could analyze what
> it would do with those inputs. It's a deterministic system. So given
> certain inputs, you can analyze the software and determine what
> the outputs are. In this case, the outputs from the LP server are
> blockchain transactions which are public, and so I was able to
> identify the properties of those blockchain transactions based on
> reviewing the source code associated with the LP server and then
> identifying those transactions on the public Terra blockchain.
>
> Q So just to be clear, did you need the inputs to identify LP
> server blockchain transactions?
>
> A No.
>
> Q And did you do anything to verify your identification of LP
> server blockchain transactions?

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> A I did. I reviewed some public posts that were made by Do Kwon
> where he identified and pointed to screenshots of certain
> transactions on the Terra blockchain and identified them as, you
> know, purported Chai transactions. I compared those transactions
> and the properties of those transactions to the properties that I used
> in my methodology for identifying Chai transactions on the Terra
> blockchain and confirmed that they were consistent.

Id. 70:12-71:13.

The other part of Defendants' argument in this regard appears to be based on a

misreading of the Court's opinion. Defendants claim that "the Court is manifestly incorrect that

Dr. Edman based his opinion 'on his review of the LP Server itself' and 'the 'repository' of

which contained 'scripts' that 'use the private keys controlled by the LP Server to create

transactions associated with purported merchant user wallets'" Def. Recon Mot. at 10 (quoting

Terraform Labs Pte. Ltd., 2023 WL 8944860, at 9). Defendants suggest that the Court was

stating that Dr. Edman actually reviewed the LP Server inputs, which were never produced to the

SEC by Defendants. Defendants' suggestion is wrong for two reasons.

First, throughout the Court's opinion denying Defendants' motion to exclude Dr. Edman,

the Court makes repeated references to Dr. Edman's review of the LP Server source code. *See

id*., at 8 ("After reviewing the source code of Terraform's 'LP Server,' Dr. Edman concluded that

the 'primary functionality' of the LP Server software 'was to replicate purported Chai user and

merchant transactions onto the Terra blockchain.'"); *id*. ("Dr. Edman is a computer scientist who

draws conclusions about the Terraform blockchain by examining the source code of a server and

its programming. Such analysis and conclusions are well within Dr. Edman's bailiwick."); *id*.

("Quite aside from the notable fact that the information that defendants criticize Dr. Edman for

not considering is information that defendants were unable to produce . . . Dr. Edman was able to

reach his conclusions based on the LP Server source code and public blockchain data."). Thus,

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in context it is clear that when the Court refers to the "LP Server itself, *the 'repository' of which contained 'scripts*,'" (*id.*, at 9), the Court is referring to the same LP Server source code that the Court had just discussed in all the preceding paragraphs.

Second, what makes Defendants' misreading of the Court's opinion obvious is the fact that they spend several pages of their reconsideration motion criticizing the Court for holding that Dr. Edman could offer his opinions *without having access* to the inputs to the LP Server itself. *See e.g.*, Def. Recon Mot. at 8 ("The Court summarily rejected Defendants' argument that Dr. Edman failed to consider 'the data that was input into the LP Server that resulted in the blockchain transaction' on the grounds that 'defendants were unable to produce' this data *and that Dr. Edman 'was able to reach his conclusions based on the LP Server source code and public blockchain data*.'") (quoting *Terraform Labs Pte. Ltd.,* 2023 WL 8944860, at 8) (emphasis added).

So, while Defendants baselessly accuse the Court' of "ignor[ing] key facts that renders (*sic*) Dr. Edman's opinion unreliable and warrants (*sic*) reconsideration," (Def. Recon Mot. at 12), in reality it is Defendants who ignore the facts and seek an inappropriate second bite at the apple.

   B. Defendants' Arguments About the Definitive
       Location of the LP Server Data are Inaccurate

Although Dr. Edman testified, and the Court held, that he could offer his opinions despite having not been provided access to the LP Server data, Defendants go to great lengths in their motion for reconsideration to argue that the Court's "Opinion ignores *uncontested facts* that the LP Server is in the possession of Chai, not TFL." Def. Recon. Mot. at 8 (emphasis added). Not only is the unavailability of the LP Server data irrelevant to Dr. Edman's ability to offer his opinions, but it is also unclear to the SEC how counsel for Terraform can now definitively

represent that Chai in fact possesses the LP Server data that Defendants contend Dr. Edman should have examined.

The SEC consistently sought information regarding the location of the LP Server and related data from Defendants during discovery. As we explained in our opposition to Defendants' *Daubert* motion to exclude Dr. Edman, even though Do Kwon co-founded Chai and Chai initially operated as part of Terraform, the "inputs" that Defendants claim should have been reviewed were not actually produced in discovery, as Defendants initially claimed not to have access to them. *Daubert* Opp. at 12, n. 4 (ECF No. 110). However, the day before Dr. Edman's deposition on September 20, 2023 and less than a month before the end of discovery, Defendants claimed to have realized that one of their affiliated companies, Gaza Labs, did in fact host the LP Server on a cloud service it subscribed to through a company called Naver. *Id*. Defendants also claimed that they made attempts to obtain this data but were unsuccessful. *See* Meet and Confer E-mail Exchange (attached as Exhibit 2).

Furthermore, the SEC served interrogatories upon Defendants that asked them to "Identify the location and custodian of the 'LP Server' described in paragraph 134 of the Complaint." *See* August 4, 2023 Defendants' Second Amended Responses and Objections to Plaintiff's First Set of Interrogatories at 13 (Interrogatory No. 5) (attached as Exhibit 3). Initially, Terraform responded, "Subject to and without waiving the foregoing objections, Defendant TFL responds that it understands that the 'LP Server' was owned by Chai Corporation. TFL does not know the location or custodian of the 'LP Server.'" *Id*. Kwon initially offered a similarly worded response. "Subject to and without waving the foregoing objections. Mr. Kwon responds that he understands that the 'LP Server' was owned by Chai Corporation and that he does not know the location or custodian of the 'LP Server.'" *See*

September 8, 2023 Defendant Kwon's Second Amended Responses and Objections to Plaintiff's

First Set of Interrogatories at 8 (Interrogatory No. 5) (attached as Exhibit 4).

However, around the same time that Defendants' counsel informed the SEC that it

recently learned that Terraform affiliate Gaza Labs had hosted the LP Server on a Naver cloud

service, both Defendants amended their responses to the SEC's Interrogatory seeking the

location and custodian of the LP Server to remove any mention of its "understand[ing] that the

'LP Server' was owned by Chai Corporation." First, on September 22, 2023, Defendant

Terraform amended its interrogatory responses to remove the reference to Chai owning the LP

Server. *See* September 22, 2023 Defendants' [Third][2] Amended Responses and Objections to

Plaintiff's First Set of Interrogatories at 13 (Interrogatory No. 5) ("Subject to and without

waiving the foregoing objections, Defendant TFL responds that it does not know the location or

custodian of the 'LP Server' at this time.") (attached as Exhibit 5). Shortly thereafter, on

October 5, 2023, Defendant Kwon served amended interrogatory responses that addressed only

two of the interrogatories served by the SEC and removed any reference to his understanding

that Chai owned the LP Server. See October 5, 2023 Defendant Kwon's Third Amended

Responses and Objections to Plaintiff's Interrogatory Nos. 5 and 10 at 3 (Interrogatory No. 5)

(attached as Exhibit 6).

Thus, the SEC is perplexed as to how Defendants can assert that the Court "ignore[d]

uncontested facts that the LP Server is in the possession of Chai not TFL," (Def. Recon. Mot. at

8), when Defendants themselves amended their interrogatory responses to remove even the

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[2] Defendants had also titled these responses as the "Second Amended Responses" in their
September 22, 2023 submission, despite having previously sent second amended responses on
August 4, 2023.

understanding that Chai had owned the LP Server and continued to assert that they knew neither

the location nor the custodian of the LP Server as of September and October 2023. Obviously,

the SEC was not involved in Defendants' dealings with Chai and can only rely on the

information it obtains through discovery to inform its understanding as to where exactly the LP

Server and its data resides.

Aside from citing to "representations made by counsel for Defendants at the Daubert

Hearing [that] further clarified that Chai, not TFL, has possession of the LP Server," Defendants

only point to a snippet of a conversation recorded by Confidential Witness (CW)-1 with Jihoon

Kim to support its assertion that the Court ignored *uncontested evidence* that the LP Server is

currently in the possession of Chai. Def. Recon. Mot. at 8.[3] Though the quoted statement made

by Jihoon Kim in October 2021 that the "LP is just one small server that resides somewhere in

our um server," (*id.*) is hardly definitive proof as to the location of the LP Server as of October

2023, it is worth emphasizing that the conversation quoted by Defendants is the same one

(quoted in the Court's Dec. 28, 2023 decision) in which Jihoon Kim stated, "there's no crypto

going on within Chai." *See* Terraform Labs Pte. Ltd., 2023 WL 8944860, at 4.

Finally, Defendants attempt to minimize the fact that it was a Terraform employee who

programmed the LP Server. *See* Def Recon. Mot. at 8-9 ("The SEC's assertion that a TFL

employee once wrote the LP Server code does not place any of these facts or representations in

dispute . . . ."). However, Dr. Edman establishes in his report that between June 10, 2019 and

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[3] In their reply in support of their motion to exclude Dr. Edman when they made the same
argument they make now about control of the LP Server, Defendants had previously asserted,
"And the evidence available to the SEC indicates that the Naver Cloud on which the LP Server
operated was transferred to the control of Chai sometime around October 2018." Def. Daubert
Reply at 4 (ECF No. 121). They have dropped that claim from their reconsideration motion,
perhaps recognizing that until early 2020, Chai and Terraform were closely associated with each
other, sharing an office space and overlapping personnel.

December 9, 2021 there were 45 collections of changes (referred to as "commits") made to the

LP Server source code repository. Edman Report, ¶ 35 (ECF No. 87-2). All 45 sets of changes

to the LP Server source code repository were made by users with "terra.money" email addresses,

the email domain associated with Terraform. 44 of those sets of changes were made by a user

with the email address paul@terra.money--the email address associated with Terraform

employee Paul Kim. *Id*. Thus, it was Dr. Edman's "opinion that 'Paul Kim paul@terra.money>'

was the primary developer or maintainer of the LP Server." *Id*., ¶ 36. These facts certainly call

into question Defendants attempts to minimize their connection to the LP Server.

III.   Defendants Arguments About the Amendments to Rule 702 are Meritless

Defendants have the temerity to claim that "*the Court's decision* did not account for an

intervening change in the controlling law—Federal Rule of Evidence 702." Def. Recon. Mot. at

2 (emphasis added). This statement is rich, considering the Court *expressly quoted and applied*

the version of Rule 702 that went into effect on December 1, 2023 in the Court's opinion. *See*

Terraform Labs Pte. Ltd., 2023 WL 8944860, at 5. The Court also noted that "the Court's

decision would be identical under both the old and the new versions." *Id*., at 5 n. 4.

Defendants, however, quoted the pre-December 1, 2023 Rule 702 in their *Daubert*

motion and never once mentioned the forthcoming amendment or suggested that it would

represent a sea change in the law that would alter how the Court should decide the motion. This

is so, even though the Chief Justice of the United States transmitted this forthcoming change to

Congress on April 24, 2023, accompanied by a Supreme Court Order that the amendment to

Rule 702 "shall take effect on December 1, 2023, and shall govern in all proceedings thereafter

commenced *and, insofar as just and practicable, all proceedings then pending*." *See* Apr. 24,

2023 Ltr. from Chief Justice Roberts to the Speaker of the House and the President of the Senate,

https://www.supremecourt.gov/orders/courtorders/frev23_5468.pdf (last visited Jan. 10, 2024)

(emphasis added). Thus, it was public knowledge (and common knowledge in the world of civil

litigation) that these changes were set to take effect, yet Defendants did nothing to raise them

with the Court, much less suggest that they would be outcome determinative. Only the Court

raised the issue of the new 702 language *and applied it*.

Moreover, aside from gesturing at the amended language of Rule 702 in their motion,

Defendants never articulate how a change from an assessment of whether "the expert has reliably

applied the principles and methods to the facts of the case" (former language) to "the expert's

opinion reflects a reliable application of the principles and methods to the facts of the case" (new

language), would change the Court's opinion here as it relates to Dr. Edman's well-reasoned and

well-supported expert opinions. Defendants' belated argument should be rejected.

<u>CONCLUSION</u>

For the foregoing reasons, Defendants' motion should be denied.

Dated: January 10, 2024   Respectfully submitted,

                                                   /s/ Christopher J. Carney
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